# Memo

STATE OF RHODE ISLAND
ENERGY EFFICIENCY & RESOURCE MANAGEMENT COUNCIL

To: EERMC
From: EERMC Consultant Team
Date: December 7, 2017
Subject: Potential Study Budget Item Overview

CONSULTANT TEAM

This memo is provided to the Council to give an overview of the purpose and use of the $200K budget item for data collection relating to a potential study. It is not intended to be a plan of action, but rather explains the justification of the budget item and the broad outline of how it might be used so that the Council can begin work on a potential study in 2018.

## Why Do We Need a Potential Study, and Why Now?

As part of the 2006 Comprehensive Energy Bill, the General Assembly charged the EERMC with producing an "Opportunity Report" that would identify the scale of two resources within the state: (1) low cost efficiency resources existing in Rhode Island homes, businesses, and institutions, and (2) system reliability resources such as distributed generation, small scale renewables, and demand response. The Opportunity Report was a potential study in that it represented the most detailed, comprehensive, and state-specific estimate of the energy efficiency potential in Rhode Island. Since its completion in 2010, the resulting Opportunity Report has been an instrumental resource in the development of energy efficiency targets and plans. Because the report quantified energy efficiency potential only through 2020, it cannot inform the 2021-2023 Targets and ensuing 3-Year and Annual plans. Therefore, a new achievable potential study[1] should be completed in time to inform the 2021-2023 target setting process that will occur in the first quarter of 2020.

The Consultant Team envisions that this new potential study could be completed over a two-year period, with data collection and initial research occurring in 2018 and analysis and reporting occurring in 2019. Spreading the study across two calendars years accomplishes two things. First, although the available $200,000 is not sufficient for a complete study, it makes use of these funds to advance the work. Second, it provides plenty of time for stakeholders and National Grid to conduct the study carefully and with ample time for discussion, consideration, and planning, thus leading to a better study overall.

## What are the Steps of a Potential Study?

There are several important steps in developing an effective and useful energy efficiency potential study. Here we provide a general overview of each of the steps that would need to be completed. Although we have not prepared a detailed work plan and budget, we believe that steps 1 through 4

[1] Potential studies address one ore more of three primary types of efficiency potential – technical, economic, and achievable. Technical potential is the theoretical maximum amount of energy use that could be displaced by efficiency without regard for cost-effectiveness or willingness to participate. Economic potential is a subset of technical potential that is economically cost-effective. Achievable potential, which would be the basis for this study, estimates the energy use that efficiency can realistically be expected to displace given real-world barriers and costs.

could be completed in 2018 using the available $200,000 from the Council budget, with steps 5 through 7 being completed in 2019. Below, we provide additional explanation of the steps, with an emphasis on the steps proposed to occur in 2018.

### Step 1 – Initial Planning

For a potential study to be effective and useful, it should be developed in a manner so that all relevant stakeholders (in this case, the EERMC, Consultant Team, National Grid, PUC, etc.) can support the results for the purpose of future planning. Given this, the first step will be to determine what level of participation each stakeholder will assume. Some stakeholders will need to drive the core planning efforts while others might serve in an advisory role, providing input as needed. The primary goals of this step are to (1) get all stakeholders on the same page as it pertains to the goals and expected outcomes of the potential study, and (2) develop and finalize a detailed workplan.

### Step 2 – Determine Data Sources and Collect Input Data

The goal of this step is to assess existing data relevant to the potential study, determine potential gaps, and develop a plan for addressing these gaps. In doing so, all of the modeling inputs and assumptions needed for the analysis will be identified. In addition, any available data on customer types, sales by fuel type, sales disaggregated by end-use and building type, equipment data, and other state-specific data will be collected and verified for accuracy. Lastly, gaps will be identified and a plan for addressing them will be developed.

### Step 3 – Estimate the Effect of Building Energy Codes and Appliance and Equipment Standards on Programs and Measure Baselines

The primary goal of this step will be to develop a firm understanding of how impending building energy codes and federal appliance standards will impact programs during the study period. As part of this step, the selected contractor(s) will need to identify any known codes and standards changes occurring during the analysis period, as well as consider other changes that might reasonably be expected. Along with these determinations, the contractor must also understand the extent to which these changes were already considered in the load forecast, and make adjustments if necessary.

### Step 4 – Identify New Measures and Approaches

Although many efficiency measures are known and currently being supported by efficiency programs in Rhode Island, this step is aimed at identifying new savings opportunities from emerging measures and new program approaches that might be included in the study. As a part of this effort, some measures currently supported by existing efficiency programs may need to be assessed for their continued relevance and appropriateness for the 2021-2023 timeframe. Areas of focus for this step will be reviewing emerging technologies, considering new approaches to behavioral savings measures or programs, and understanding new approaches to load management and demand response measures

and programs.[2] The goal of this step would be to develop a final list of measures and/or approaches for inclusion in the potential study.

### Steps 5 to 7– Estimate Potential; Specify Utility Program, Portfolio, and Policy Recommendations; and Produce Results and Reporting

Step 5, the task of estimating the achievable potential, is the most time- and cost-intensive step of the potential study process. It includes developing several components of the analysis, including a baseline sales forecast for each customer type and end use, avoided costs, load shapes, and various other modeling inputs, all of which must be completed before calculating the achievable potential. There is neither sufficient time nor budget to complete this work in 2018 in addition to tasks 1 through 4. Therefore, we assume it will begin in 2019. Finally, steps 6 (specify utility program, portfolio, and policy recommendations) and 7 (produce results and reporting) cannot be completed without first completing Step 5, so these must also occur in 2019.

[2] Rather than provide financial incentives for high efficiency equipment or products, behavioral measures or programs aim to reduce energy consumption by providing customers with information that results in energy conservation behavior.